

**BELLSOUTH**

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January 14, 2000

Mr. Dale N. Hatfield  
Federal Communications Commission  
445 12<sup>th</sup> Street SW, Room 7-C155  
Washington, D.C. 20554

RECEIVED

JAN 14 2000

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

RE: Final Service Disruption Report

Dear Mr. Hatfield:

Pursuant to the requirements of the Commission's Order in CC Docket 91-273, released February 27, 1992, BellSouth Telecommunications, Incorporated submits a Final Service Disruption Report for a service outage that occurred on December 16, 1999.

The attached final report completes our response on the December 16, 1999 outage. It includes an update of the information previously provided in the 72 Hour Service Disruption Report that was sent to the Commission's Watch Office on the December 16, 1999.

If you have any questions concerning this report, please contact the undersigned.

Sincerely,



Ben G. Almond  
Vice President-Federal Regulatory

Attachment

cc: Robert Kimball

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List A B C D E

## FINAL SERVICE DISRUPTION REPORT

This Final Service Disruption report is filed by BellSouth Telecommunications Inc., in accordance with both the First and Second Report and Order Amendment of Part 63.100 of the Federal Communications Commission's rules. A 72-Hour Reportable Initial Service Disruption Report for this Jackson, Mississippi outage was filed with the FCC Watch Officer on December 16, 1999.

### GEOGRAPHIC AREA AFFECTED:

The facility affected during the outage serves the Jackson, Mississippi area in LATA 482.

### DURATION OF OUTAGE:

Further investigation of this outage determined service-affecting alarms were received on December 16, 1999 at 9:01AM EST. Service was restored at 1:00PM EST for a total outage duration of 3 hours 59 minutes.

### ESTIMATED NUMBER OF CUSTOMERS AFFECTED:

This outage involved a DS3 facility that potentially affected 3,141 customers. This event was reportable because this DS3 carried 8 essential service trunks from the Jackson-Meadowbrook end office (JCSNMSMBDS0) to the Jackson-Belvedere E911 tandem (JCSNMSBL17T), which prevented the customers served by this end office from reaching 911. The Jackson-Meadowbrook end office serves approximately 38,080 potential customers.

### TYPES OF SERVICE AFFECTED:

As previously reported in the Initial Service Disruption Report, this facility failure affected 911 service from this end office. Further investigation determined inter-office and inter-LATA service was also impacted.

### ESTIMATED NUMBER OF BLOCKED CALLS:

There were approximately 1,632 blocked calls during this event.

#### APPARENT OR KNOWN CAUSE OF THE INCIDENT:

BellSouth technical support found a degraded OC48 optical receiver at one of four (4) nodes on the bi-directional line switched ring. The OC48 signal was degraded but did not exceed the switching threshold, therefore, the facility did not switch. The signaling was more degraded on the two STS1 channels (which carried the 911 circuits) than on the entire OC48 spectrum.

#### ROOT CAUSE:

Facility Hardware - Defective Fujitsu OC48 optical receiver (which caused errors on two STS1 channels in the OC48).

#### METHODS USED TO RESTORE SERVICE:

At 9:01AM EST on December 16, 1999, BellSouth surveillance personnel began investigating service-affecting alarms received on a T3 carrier system between Jackson-Meadowbrook and Jackson-Belvedere. Tickets were initiated and dispatches were made to both end offices. A maintenance bridge was established with all necessary centers to facilitate service restoral. Service was restored at 1:00PM EST when the impacted DS3 was routed to a different BellSouth facility.

#### STEPS TO PREVENT RECURRENCE:

1. BellSouth technicians replaced a defective Fujitsu OC48 optical receiver.
2. BellSouth will be further diversifying the 911 circuits by separating the 911 trunks out of the Jackson-Meadowbrook end office to diverse facilities in two separate rings.

#### EVALUATION OF EFFECTIVENESS AND APPLICATION OF NRC RECOMMENDATIONS AND BEST PRACTICES

Having reviewed the Network Reliability Council's Compendium of Technical Papers, there are no best practices for this particular hardware failure on transport equipment. Section F, Paragraph 6.1.1 speaks to Diverse Routing of Interoffice Facilities and 6.1.1.1 addresses the use of SONET fiber optic rings due to the high reliability afforded by its architecture.

## Additional Information about Service Disruption

Date of Incident: 12/16/1999

Location of Incident: Jackson, Mississippi

1. Has the root cause occurred before on this particular system? (If yes, explain)  
NO

2. Is there any (facility) diversity element in this system? (If yes, explain)  
Yes, this OC48 system is a Bi-directional Line Switched Ring.

3. Is the 911 system tied to a tandem? If so, did tandem switch go out?  
The JCSNMSBLDS0 (Jackson-Belvedere end office) serves as the 911 tandem (JCSNMSBL17T).  
The tandem switch was not out of service.

4. Was the role of the PSAP(s) lost? (Could the PSAP(s) function?)  
This outage did not involve an isolation of a PSAP. One PSAP, American Medical Response, reported two trunks out of service; however, they had one trunk in service along with their administrative line.

There were 8 essential service trunks out of service from the Jackson-Meadowbrook end office to the Jackson-Belvedere 911 tandem, which prevented the customers served in Jackson-Meadowbrook switch from reaching 911.

5. Were there any intercept (special announcement) messages available?  
If yes, what kind.  
No.

6. Were any major emergencies missed because of the outage?  
BellSouth received no reports of any major emergencies missed because of this outage.